

CLAIMS

1. A power transmitting fluid for use in a transmission having a steel-on-steel contact, comprising:
 - (a) a major amount of a base oil; and
 - (b) at least one thiadiazole or derivative thereof present in an amount of about 0.05 wt% or more,wherein the fluid has improved steel-on-steel friction properties.
2. The fluid of claim 1, wherein the thiadiazole comprises one or more of (a) 2-hydrocarbyldithio-5-mercapto-1,3,4-thiadiazole, 2,5-bis-(hydrocarbyldithio)-1,3,4-thiadiazole, and mixtures thereof; (b) 2-hydrocarbylthio-5-mercapto-1,3,4-thiadiazole; and (c) products from combining an oil soluble dispersant with 2,5-dimercapto-1,3,4-thiadiazole (DMTD); and (d) mixtures thereof.
3. The fluid of claim 1, wherein the thiadiazole is substituted with at least one linear, branched or cyclic saturated or unsaturated hydrocarbon group.
4. The fluid of claim 1, wherein the thiadiazole is present in an amount of from about 0.095 wt% to about 5 wt%.
5. The fluid of claim 1, wherein the thiadiazole is present in an amount of from about 0.3 wt% to about 0.5 wt%.
6. The fluid of claim 1, wherein the transmission comprises one or more of a belt-type continuously variable transmission (CVT), chain-type CVT, and toroidal CVT.
7. The fluid of claim 1, wherein the improved steel-on-steel friction properties are improved relative to a fluid not comprising the cited amount of the thiadiazole.

8. The fluid of claim 1, wherein the base oil comprises one or more of natural lubricating oils, synthetic lubricating oils, and mixtures thereof.
9. A continuously variable transmission lubricated with the fluid of claim 1.
10. A method of lubricating a transmission having steel-on-steel contact, comprising adding to, and operating in, the transmission a fluid as set forth in claim 1.
11. An additive composition for use in a transmission having a steel-on-steel contact, comprising at least one thiadiazole or derivative thereof present in an amount of about 0.5 wt% or more, wherein the fluid has improved steel-on-steel friction properties.
12. The additive composition of claim 11, wherein the thiadiazole comprises one or more of (a) 2-hydrocarbyldithio-5-mercapto-1,3,4-thiadiazole, 2,5-bis-(hydrocarbyldithio)-1,3,4-thiadiazole, and mixtures thereof; (b) 2-hydrocarbylthio-5-mercapto-1,3,4-thiadiazole; and (c) products from combining an oil soluble dispersant with 2,5-dimercapto-1,3,4-thiadiazole (DMTD); and (d) mixtures thereof.
13. The additive composition of claim 11, wherein the thiadiazole is present in an amount of from about 0.95 wt% to about 10 wt%.
14. The additive composition of claim 11, wherein the thiadiazole is present in an amount of from about 3 wt% to about 5 wt%.
15. The additive composition of claim 11, wherein the transmission comprises one or more of a belt-type continuously variable transmission (CVT), chain-type CVT, and toroidal CVT.
16. The additive composition of claim 11, wherein the improved steel-on-steel friction properties are improved relative to a fluid not comprising the cited amount of the thiadiazole.

17. A continuously variable transmission lubricated with the additive composition of claim 11.

18. A method of lubricating a transmission having steel-on-steel contact, comprising adding to, and operating in, the transmission a additive composition as set forth in claim 11.

19. A method of making a power transmitting fluid having steel-on-steel friction-improving capabilities, comprising adding to a major amount of a base oil a thiadiazole in an amount of about 0.05 wt% or more.

20. A power transmitting fluid for use in a transmission having a steel-on-steel contact, comprising:

(a) a major amount of a base oil; and

(b) at least one thiadiazole or derivative thereof present in an amount sufficient to provide a coefficient of friction of about 0.085 or greater in a steel-on-steel application.

21. The fluid of claim 20, wherein the thiadiazole or derivative thereof is present in an amount sufficient to provide a coefficient of friction of about 0.09 or greater in a steel-on-steel application.